

**What is claimed is:**

1. A logical circuit designing device, comprising:  
a logical circuit storage unit storing a logical  
circuit;  
a transmission line circuit generation unit  
generating a transmission line circuit based on the  
logical circuit stored in the logical circuit storage  
unit; and
- 10 a transmission line circuit storage unit storing  
the transmission line circuit generated by the  
transmission line circuit generation unit.
2. A logical circuit designing device, comprising:  
15 a logical circuit storage unit storing a logical  
circuit;  
a transmission line circuit storage unit storing  
a transmission line circuit corresponding to the logical  
circuit stored in the logical circuit storage unit;
- 20 a transmission line circuit editing unit editing  
the transmission line circuit stored in the transmission  
line circuit storage unit; and
- 25 a logical circuit modification unit modifying the  
corresponding logical circuit based on the transmission  
line circuit edited by the transmission line circuit

editing unit.

3. A logical circuit designing device, comprising:  
a logical circuit storage unit storing a logical  
5 circuit;

a transmission line circuit generation unit generating a transmission line circuit based on the logical circuit stored in the logical circuit storage unit;

10 a transmission line circuit storage unit storing  
the transmission line circuit generated by the  
transmission line circuit generation unit;

a transmission line circuit editing unit editing  
the transmission line circuit stored in the transmission  
line circuit storage unit; and

a logical circuit modification unit modifying the corresponding logical circuit based on the transmission line circuit edited by the transmission line circuit editing unit.

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4. The logical circuit designing device according to claim 1, further comprising

a topology designation table storing topology information indicating a type of a connection between active components composing a logical circuit, and

wherein

5        said transmission line circuit generation unit generates a transmission line circuit based on the topology information stored in the topology designation table.

5.        The logical circuit designing device according to claim 1, further comprising

10      a value designation table storing a value of a passive component composing a logical circuit, and wherein

      said transmission line circuit generation unit generates a transmission line circuit based on the value stored in the value designation table.

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6.        The logical circuit designing device according to claim 1, further comprising

20      an addition designation table storing addition information of a passive component composing a logical circuit, and

      wherein

      said transmission line circuit generation unit generates a transmission line circuit by adding the passive component based on the passive component addition information stored in the addition designation

table.

7. The logical circuit designing device according to  
claim 1, further comprising

5 a deletion designation table storing deletion  
information of a passive component composing a logical  
circuit, and  
wherein

10 said transmission line circuit generation unit  
generates a transmission line circuit by deleting the  
passive component based on the passive component  
deletion information stored in the deletion designation  
table.

15 8. The logical circuit designing device according to  
claim 3, further comprising

a topology designation table storing topology  
information indicating a type of a connection between  
active components composing a logical circuit, and  
20 wherein

said transmission line circuit generation unit  
generates a transmission line circuit based on the  
topology information stored in the topology designation  
table.

9. The logical circuit designing device according to claim 3, further comprising

a value designation table storing a value of a passive component composing a logical circuit, and

5 wherein

said transmission line circuit generation unit generates a transmission line circuit based on the value stored in the value designation table.

10 10. The logical circuit designing device according to claim 3, further comprising

an addition designation table storing addition information of a passive component composing a logical circuit, and

15 wherein

said transmission line circuit generation unit generates a transmission line circuit by adding the passive component based on the passive component addition information stored in the addition designation 20 table.

11. The logical circuit designing device according to claim 3, further comprising

a deletion designation table storing deletion 25 information of a passive component composing a logical

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circuit, and  
wherein

said transmission line circuit generation unit generates a transmission line circuit by deleting the 5 passive component based on the passive component deletion information stored in the deletion designation table.

12. The logical circuit designing device according to 10 claim 2, wherein

said logical circuit modification unit modifies the logical circuit stored in the logical circuit storage unit based on the transmission line circuit edited by the transmission line circuit editing unit.

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13. The logical circuit designing device according to claim 9, wherein

said logical circuit modification unit modifies the value of a passive component of the logical circuit 20 stored in the logical circuit storage unit based on the transmission line circuit edited by the transmission line circuit editing unit.

14. The logical circuit designing device according to 25 claim 10, wherein

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said logical circuit modification unit modifies the passive component addition information of the logical circuit stored in the logical circuit storage unit based on the transmission line circuit edited by 5 the transmission line circuit editing unit.

15. The logical circuit designing device according to claim 11, wherein

said logical circuit modification unit modifies 10 the passive component deletion information of the logical circuit stored in the logical circuit storage unit based on the transmission line circuit edited by the transmission line circuit editing unit.

15 16. The logical circuit designing device according to claim 12, wherein

said logical circuit modification unit modifies the logical circuit based on a difference between the transmission line circuit edited by the transmission 20 line circuit editing unit and the logical circuit stored in the logical circuit storage unit.

17. A logical circuit designing method, comprising:  
generating a transmission line circuit based on 25 a logical circuit stored in a logical circuit database;

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and

storing the generated transmission line circuit  
in a transmission line circuit database.

- 5 18. A logical circuit designing method, comprising:  
          editing the transmission line circuit stored in  
the transmission line circuit database; and  
          modifying a logical circuit corresponding to the  
transmission line circuit based on the edited  
10 transmission line circuit.
- 15 19. A logical circuit designing method, comprising:  
          generating a transmission line circuit based on  
a logical circuit stored in a logical circuit database;  
          storing the generated transmission line circuit  
in a transmission line circuit database  
          editing the transmission line circuit stored in  
the transmission line circuit database; and  
          modifying the generated logical circuit based on  
20 the edited transmission line circuit.
- 25 20. The logical circuit designing method according to  
claim 17, wherein  
          the transmission line circuit is generated based  
on topology information stored in a topology designation

table storing topology information indicating a type of a connection between active components composing a logical circuit, in said generating.

5 21. The logical circuit designing method according to  
claim 17, wherein

the transmission line circuit is generated based  
on a value of a passive component stored in a value  
designation table storing values of passive components  
10 composing a logical circuit, in said generating.

22. The logical circuit designing method according to  
claim 17, wherein

the transmission line circuit is generated by  
15 adding a passive component based on passive component  
addition information stored in an addition designation  
table storing addition information of passive  
components composing a logical circuit, in said  
generating.

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23. The logical circuit designing method according to  
claim 17, wherein

the transmission line circuit is generated by  
deleting a passive component based on passive component  
25 deletion information stored in a deletion designation

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table storing deletion information of passive components composing a logical circuit, in said generating.

- 5 24. The logical circuit designing method according to claim 19, wherein

the transmission line circuit is generated based on topology information stored in a topology designation table storing topology information indicating a type 10 of a connection between active components composing a logical circuit, in said generating.

25. The logical circuit designing method according to claim 19, wherein

15 the transmission line circuit is generated based on a value stored in a value designation table storing values of passive components composing a logical circuit, in said generating.

- 20 26. The logical circuit designing method according to claim 19, wherein

the transmission line circuit is generated by adding a passive component based on addition information of the passive component stored in an addition 25 designation table storing addition information of

passive components composing a logical circuit, in said generating.

27. The logical circuit designing method according to  
5 claim 19, wherein

the transmission line circuit is generated by deleting a passive component based on deletion information of the passive component stored in a deletion designation table storing deletion 10 information of passive components composing a logical circuit, in said generating.

28. The logical circuit designing method according to  
claim 18, wherein

15 the logical circuit is modified based on the transmission line circuit edited by said editing, in said modifying.

29. The logical circuit designing method according to  
20 claim 25, wherein

the logical circuit is modified by modifying a value of a logical circuit stored in said logical circuit database based on the transmission line circuit edited by said editing, in said modifying.

30. The logical circuit designing method according to  
claim 26, wherein

the logical circuit is modified by modifying  
passive component addition information of a logical  
5 circuit stored in the logical circuit database based  
on the transmission line circuit edited by said editing,  
in said modifying.

31. The logical circuit designing method according to  
10 claim 27, wherein

the logical circuit is modified by modifying  
passive component deletion information of a logical  
circuit stored in the logical circuit database based  
on the transmission line circuit edited by said editing,  
15 in said modifying.

32. The logical circuit designing method according to  
claim 28, wherein

the logical circuit is modified based on a  
20 difference between a transmission line circuit by edited  
by said editing and a logical circuit stored in the  
logical circuit database, in said modifying.

33. A computer-readable storage medium which stores  
25 a logical circuit designing program for enabling a

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computer, comprising:

generating a transmission line circuit based on  
a logical circuit stored in a logical circuit database;  
and

5       storing the generated transmission line circuit  
in a transmission line circuit database.

34.   A computer-readable storage medium which stores  
a logical circuit designing program for enabling a  
10      computer, comprising:

editing the transmission line circuit stored in  
the transmission line circuit database; and

modifying a logical circuit corresponding to the  
transmission line circuit based on the edited  
15      transmission line circuit.

35.   A computer-readable storage medium which stores  
a logical circuit designing program for enabling a  
computer, comprising:

20      generating a transmission line circuit based on  
a logical circuit stored in a logical circuit database;

          storing the generated transmission line circuit  
in a transmission line circuit database;

25      editing the transmission line circuit stored in  
the transmission line circuit database; and

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modifying a logical circuit corresponding to the transmission line circuit based on the edited transmission line circuit.

5    36. The storage medium according to claim 33, wherein  
              the transmission line circuit is generated based  
              on topology information stored in a topology designation  
              table that stores topology information indicating types  
              of connections between active components composing a  
10      logical circuit, in said generating.

37. The storage medium according to claim 33, wherein  
              the transmission line circuit is generated based  
              on a value stored in a value designation table storing  
15      values of passive components composing a logical circuit,  
              in said generating.

38. The storage medium according to claim 33, wherein  
              the transmission line circuit is generated by  
20      adding a passive component based on passive component  
              addition information stored in an addition designation  
              table storing addition information of passive  
              components composing a logical circuit, in said  
              generating.

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39. The storage medium according to claim 33, wherein  
the transmission line circuit is generated by  
deleting a passive component based on passive component  
addition information stored in an addition designation  
5 table storing deletion information of passive  
components composing a logical circuit, in said  
generating.
40. The storage medium according to claim 35, wherein  
10 the transmission line circuit is generated based  
on topology information stored in a topology designation  
table storing types of connections between active  
components composing a logical circuit, in said  
generating.
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41. The storage medium according to claim 35, wherein  
the transmission line circuit is generated based  
on a value stored in a value designation table storing  
values of passive components composing a logical circuit,  
20 in said generating.
42. The storage medium according to claim 35, wherein  
the transmission line circuit is generated by  
adding a passive component based on passive component  
25 addition information stored in an addition designation

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table storing addition information pf passive components composing a logical circuit, in said generating.

5    43. The storage medium according to claim 35, wherein  
              the transmission line circuit is generated by  
              deleting a passive component based on passive component  
              addition information stored in an addition designation  
              table storing deletion information of passive  
10      components composing a logical circuit, in said  
              generating.

44. The storage medium according to claim 34, wherein  
              the logical circuit is modified based on the  
15      transmission line circuit edited by said editing, in  
              said modifying.

45. The storage medium according to claim 41, wherein  
              the logical circuit is modified by modifying a  
20      value of a logical circuit stored in said logical circuit  
              database based on the transmission line circuit edited  
              by said editing, in said modifying.

46. The storage medium according to claim 42, wherein  
25      the logical circuit is modified by modifying

passive component addition information of a logical circuit stored in the logical circuit database based on the transmission line circuit edited by said editing, in said modifying.

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47. The storage medium according to claim 43, wherein the logical circuit is modified by modifying passive component deletion information of a logical circuit stored in the logical circuit database based 10 on the transmission line circuit edited by said editing, in said modifying.

48. The storage medium according to claim 44, wherein the logical circuit is modified based on a 15 difference between a transmission line circuit by edited by said editing and a logical circuit stored in the logical circuit database, in said modifying.

49. A logical circuit designing program for enabling 20 a computer, comprising:

generating a transmission line circuit based on a logical circuit stored in a logical circuit database; and  
25 storing the generated transmission line circuit in a transmission line circuit database.

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50. A logical circuit designing program for enabling a computer, comprising:
- editing the transmission line circuit stored in the transmission line circuit database; and
- modifying a logical circuit corresponding to the transmission line circuit based on the edited transmission line circuit.
- 10 51. A logical circuit designing program for enabling a computer, comprising:
- generating a transmission line circuit based on a logical circuit stored in a logical circuit database;
- storing the generated transmission line circuit in a transmission line circuit database;
- editing the transmission line circuit stored in the transmission line circuit database; and
- modifying a logical circuit corresponding to the transmission line circuit based on the edited transmission line circuit.
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52. The logical circuit designing program according to claim 49, wherein
- the transmission line circuit is generated based on topology information stored in a topology designation

table that stores topology information indicating types of connections between active components composing a logical circuit, in said generating.

5 53. The logical circuit designing program according to claim 49, wherein

the transmission line circuit is generated based on a value stored in a value designation table storing values of passive components composing a logical circuit,  
10 in said generating.

54. The logical circuit designing program according to claim 49, wherein

the transmission line circuit is generated by  
15 adding a passive component based on passive component addition information stored in an addition designation table storing addition information of passive components composing a logical circuit, in said generating.

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55. The logical circuit designing program according to claim 49, wherein

the transmission line circuit is generated by  
deleting a passive component based on passive component  
25 addition information stored in an addition designation

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table storing deletion information of passive components composing a logical circuit, in said generating.

5 56. The logical circuit designing program according to claim 51, wherein

the transmission line circuit is generated based on topology information stored in a topology designation table storing types of connections between active 10 components composing a logical circuit, in said generating.

57. The logical circuit designing program according to claim 51, wherein

15 the transmission line circuit is generated based on a value stored in a value designation table storing values of passive components composing a logical circuit, in said generating.

20 58. The logical circuit designing program according to claim 51, wherein

the transmission line circuit is generated by adding a passive component based on passive component addition information stored in an addition designation 25 table storing addition information of passive

components composing a logical circuit, in said generating.

59. The logical circuit designing program according  
5 to claim 51, wherein

the transmission line circuit is generated by deleting a passive component based on passive component addition information stored in an addition designation table storing deletion information of passive  
10 components composing a logical circuit, in said generating.

60. The logical circuit designing program according  
to claim 50, wherein

15 the logical circuit is modified based on the transmission line circuit edited by said editing, in said modifying.

61. The logical circuit designing program according  
20 to claim 57, wherein

the logical circuit is modified by modifying a value of a logical circuit stored in the logical circuit database based on the transmission line circuit edited by said editing, in said modifying.

62. The logical circuit designing program according to claim 58, wherein

the logical circuit is modified by modifying passive component addition information of a logical circuit stored in the logical circuit database based on the transmission line circuit edited by said editing, in said modifying.

63. The logical circuit designing program according to claim 59, wherein

the logical circuit is modified by modifying passive component deletion information of a logical circuit stored in the logical circuit database based on the transmission line circuit edited by said editing, in said modifying.

64. The logical circuit designing program according to claim 60, wherein

the logical circuit is modified based on a difference between a transmission line circuit by edited by said editing and a logical circuit stored in the logical circuit database, in said modifying.

65. A logical circuit designing device, comprising:  
25            logical circuit storage means for storing a

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logical circuit;

transmission line circuit generation means for generating a transmission line circuit based on the logical circuit stored in the logical circuit storage means; and

transmission line circuit storage means for storing the transmission line circuit generated by the transmission line circuit generation means.